



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-5468; Directorate Identifier 2015-NM-021-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for all The Boeing Company Model 737-600, -700, -700C, -800, and -900 series airplanes. This proposed AD was prompted by reports of paint deterioration on the surface of the main landing gear (MLG) and the early onset of corrosion in the trunnion bore of the MLG outer cylinder. This proposed AD would require identifying affected parts, repetitive external surface detailed inspection for damage of affected parts, and related investigative and corrective actions if necessary. For certain airplanes, this AD also would require a detailed inspection and bushing replacement of the trunnion bore, and related investigative and corrective action if necessary. We are proposing this AD to prevent stress corrosion cracking of the external surfaces of the MLG, which could result in a fracture of the MLG and consequent MLG collapse.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5468.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5468; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Alan Pohl, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6450; fax: 425-917-6590; email: alan.pohl@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2016-5468; Directorate Identifier 2015-NM-021-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We received reports from several operators of paint deterioration on the surface of the MLG and early onset of corrosion in the trunnion bore of the MLG outer cylinder. A maintenance repair and overhaul (MRO) facility observed forward trunnion bore corrosion on a right MLG while installing new bushings. Another MRO disclosed that between 2007 and 2010, the primer used on the landing gear components did not comply with Boeing Material Specification (BMS) 10-79. Also, paint chip and trunnion bore analysis showed that unqualified primer was used; primer application was up to 5 times too thick while enamel was too thin; there was early deterioration of the fillet seal at the trunnion bore; and the trunnion bushing installation process, which may have damaged the finish on the bore, did not follow the standard overhaul practices manual. This condition, if not corrected, could result in a fracture of the MLG and consequent MLG collapse.

Related Service Information under 1 CFR part 51

We reviewed Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015. The service information describes procedures for identifying affected parts, repetitive external surface detailed inspection for damage of affected parts, and related investigative and corrective actions if necessary. For certain airplanes, this AD also would require a detailed inspection and bushing replacement of the trunnion bore, and related investigative and corrective action if necessary. The service information also describes procedures for certain airplanes that include a detailed inspection of the trunnion bore, and corrective actions. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of these same type designs.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously, except as discussed under “Differences Between this Proposed AD and the Service Information.”

The phrase “corrective actions” is used in this proposed AD. “Corrective actions” correct or address any condition found. Corrective actions in an AD could include, for example, repairs.

The phrase “related investigative actions” is used in this proposed AD. “Related investigative actions” are follow-on actions that (1) are related to the primary action, and

(2) further investigate the nature of any condition found. Related investigative actions in an AD could include, for example, inspections.

Differences Between this Proposed AD and the Service Information

Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015, specifies to contact the manufacturer for instructions on how to repair certain conditions, but this proposed AD would require repairing those conditions in one of the following ways:

- In accordance with a method that we approve; or
- Using data that meet the certification basis of the airplane, and that have been approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) whom we have authorized to make those findings.

While the effectivity of Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015, is limited to those airplanes that are listed, the applicability of this AD affects all The Boeing Company Model 737-600, -700, -700C, -800, and -900 series airplanes.

Clarification of Affected MLGs

An MLG overhauled by SAFRAN Messier-Bugatti-Dowty outside of the Boeing Exchange program from June 1, 2009, to July 31, 2013, would also be affected by this proposed AD.

Costs of Compliance

We estimate that this proposed AD affects 33 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
External surface detailed Inspection	Up to 16 work-hours X \$85 per hour = \$1,360 per inspection cycle	\$0	\$1,360 per inspection cycle	Up to \$44,880 per inspection cycle
Outer Cylinder assembly trunnion bore detailed inspection and bushing replacement (G1-2, configuration 1)	70 work-hours X \$85 per hour = \$5,950	Negligible	\$5,950	\$196,350

We estimate the following costs to do any necessary replacements that would be required based on the results of the proposed inspection. We have no way of determining the number of aircraft that might need this replacement.

On-condition costs

Action	Labor cost	Cost per product
Outer cylinder assembly replacement (if required as a result of the outer cylinder trunnion bore detailed inspection)	28 work-hours X \$85 per hour = \$2,380	\$2,380

We have received no definitive data that would enable us to provide cost estimates for certain on-condition actions (MLG external surface repair, MLG component replacement, outer cylinder repair, and MLG replacement) specified in this proposed AD.

According to the manufacturer, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

The previous info is based on known airplanes. However, the MLG may have been overhauled outside of the Boeing Exchange Program as specified in the Clarification of Affected MLGs section of this proposed AD.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

The Boeing Company: Docket No. FAA-2016-5468; Directorate Identifier 2015-NM-021-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to all The Boeing Company Model 737-600, -700, -700C, -800, and -900 series airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 32, Landing Gear.

(e) Unsafe Condition

This AD was prompted by reports of paint deterioration on the surface of the main landing gear (MLG) and early onset of corrosion in the trunnion bore of the MLG outer cylinder. We are issuing this AD to prevent stress corrosion cracking of the external surfaces of the MLG, which could result in a fracture of the MLG and consequent MLG collapse.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Inspection for Affected Part/Serial Numbers

At the applicable time specified in table 1 of paragraph 1.E., “Compliance,” of Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015, except as required by paragraph (k)(1) of this AD: Do the actions specified in paragraphs (g)(1) and (g)(2) of this AD in order to identify affected parts.

(1) Inspect the MLG to determine if it has any component installation or side strut assembly having a part number and serial number listed in Appendix D of Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015; except that the “Variable Number” column of Appendix D is to be disregarded in determining affected part and serial numbers. A MLG that has any MLG component installation or side strut assembly having a part number and serial number listed in Appendix D of Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015, is an affected part. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number and serial number of the MLG component installation and side strut assembly can be conclusively identified from that review.

(2) Do a records review to determine if the MLG has been overhauled by SAFRAN Messier-Bugatti-Dowty outside of the Boeing Exchange program from June 1, 2009 to July 31, 2013. If the MLG has been overhauled by SAFRAN Messier-Bugatti-Dowty outside of the Boeing Exchange program from June 1, 2009 to July 31, 2013, that MLG is an affected part. If the records review cannot conclusively determine that an overhauled MLG was overhauled by an MRO other than SAFRAN Messier-Bugatti-Dowty, or if the records review cannot conclusively determine that an MLG overhauled by SAFRAN Messier-Bugatti-Dowty was part of the Boeing Exchange program from June 1, 2009 to July 31, 2013; that MLG is an affected part.

(h) Requirements for Affected Parts

If any affected part is identified during the inspection or records review required by paragraph (g) of this AD: At the applicable time specified in table 3 of paragraph 1.E., “Compliance,” of Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015, except as required by paragraph (k)(1) of this AD: Do detailed inspections of the external surfaces of the MLG, and do all applicable related investigative and corrective actions, in accordance with Parts 1, 3, and 4 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015, except as required by paragraph (k)(2) of this AD. Repeat the inspections thereafter at the applicable time specified in table 3 of paragraph 1.E., “Compliance,” of Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015. All applicable related investigative and corrective actions must be done before further flight.

(i) Additional Actions for Groups 1 and 2, Configuration 1

For airplanes that are identified as Groups 1 and 2, Configuration 1, in Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015, and that have an affected part identified during the inspection or records review required by paragraph (g) of this AD: At the applicable time specified in table 4 of Paragraph 1.E, “Compliance,” of Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015, except as required by paragraph (k)(1) of this AD, do a detailed inspection and bushing replacement of the MLG trunnion bore, and do all applicable related investigative and corrective actions, in accordance with Parts 2, 5, and 6 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015, except as required by paragraph (k)(2) of this AD.

(j) Terminating Action

(1) MLG replacement in accordance with Part 8 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015, terminates the requirements of paragraphs (g), (h), and (i) of this AD for that MLG only.

(2) MLG component replacement in accordance with Part 4 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015, terminates the requirements of paragraph (h) of this AD for that component only.

(3) MLG outer cylinder replacement in accordance with Part 7 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015, terminates the requirements of paragraph (i) of this AD for that component only.

(k) Exceptions to Service Information Specifications

(1) Where paragraph 1.E., “Compliance,” of Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015, specifies a compliance time “after the original issue date of this service bulletin,” this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Although Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015, specifies to contact Boeing for repair instructions, and specifies that action as “RC” (Required for Compliance), this AD requires repair before further flight using a method approved in accordance with the procedures specified in paragraph (m) of this AD.

(l) Parts Installation Prohibition

As of the effective date of this AD, no person may install the following on any airplane identified in paragraph (c) of this AD, unless the MLG has been overhauled using a method approved in accordance with the procedures specified in paragraph (m) of this AD:

(1) An MLG having a part number and serial number identified in Appendix D to Boeing Special Attention Service Bulletin 737-32-1486, dated November 6, 2014, as revised by Boeing Special Attention Service Bulletin 737-32-1486, Revision 1, dated April 1, 2015.

(2) An MLG that was overhauled from June 1, 2009, to July 31, 2013, by SAFRAN Messier-Bugatti-Dowty.

(m) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (n)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) Except as required by paragraph (k)(2) of this AD: For service information that contains steps that are labeled as RC, the provisions of paragraphs (m)(4)(i) and (m)(4)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

(n) Related Information

(1) For more information about this AD, contact Alan Pohl, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle ACO, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917- 6450; fax: 425-917-6590; email: alan.pohl@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. For information on the availability of this material at the FAA, You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on March 31, 2016.

Victor Wicklund,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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